



FIG. 1A

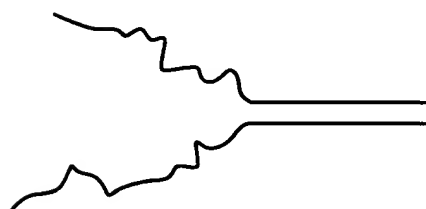


FIG. 1B

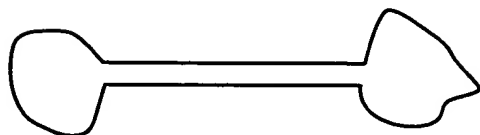


FIG. 1C



FIG. 1D

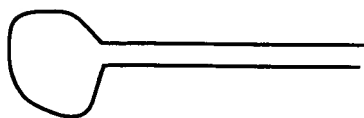
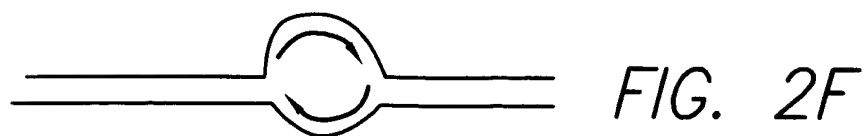
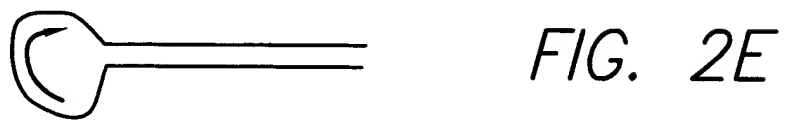
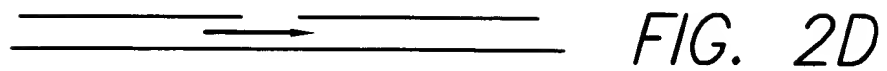
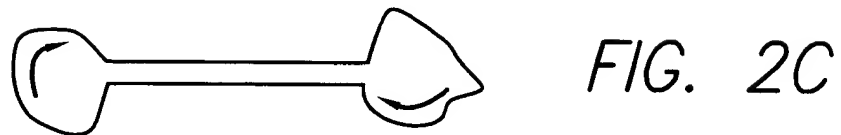
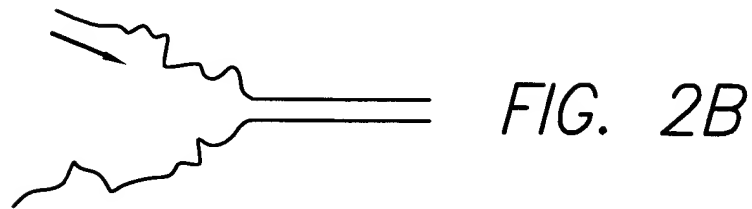
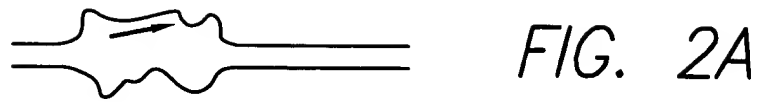


FIG. 1E



FIG. 1F

Construct Forms Comprising at Least One
Single-Stranded Region



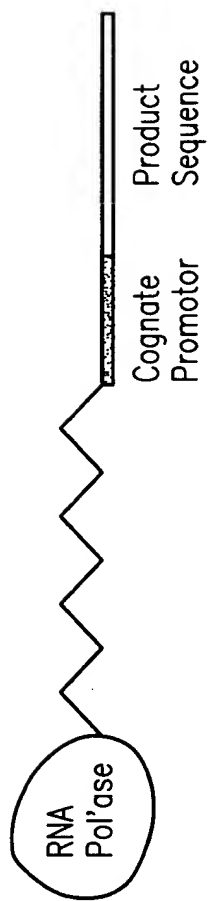


FIG. 3A

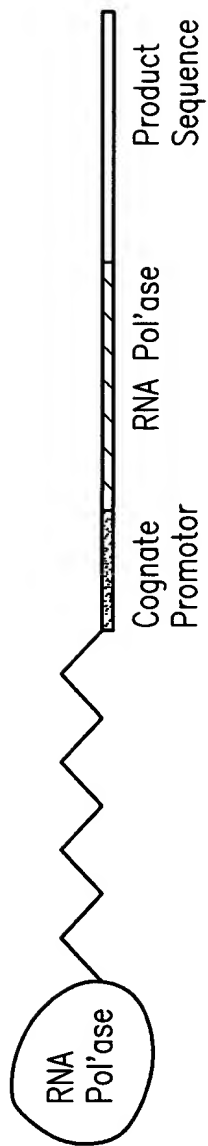


FIG. 3B

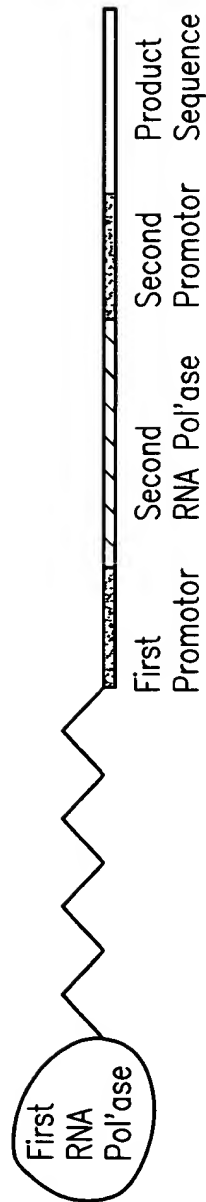


FIG. 3C

Three Constructs with an RNA Polymerase
Covalently Attached to a Transcribing Cassette

FIG. 4A

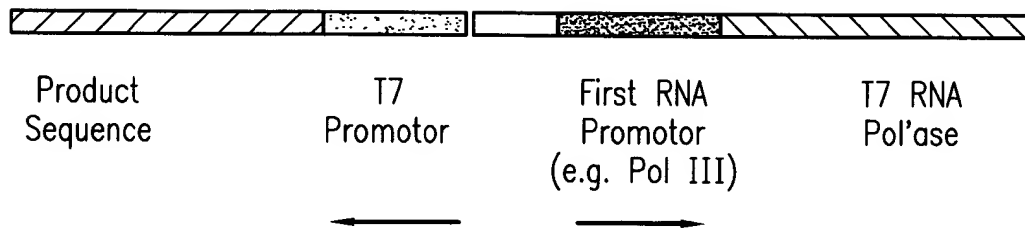


FIG. 4B

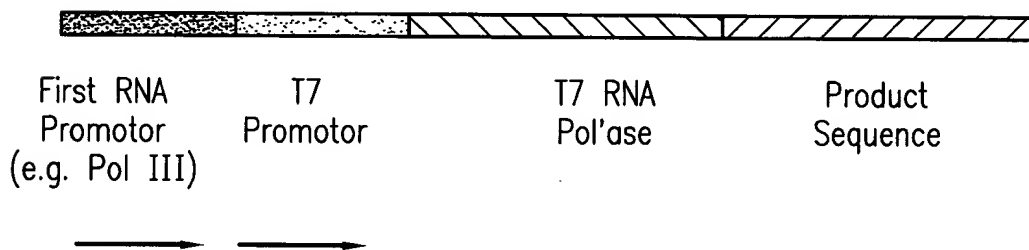
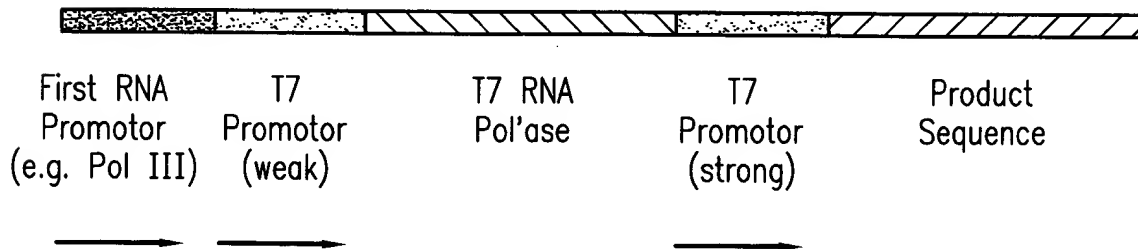


FIG. 4C



Three Constructs with Promoters
for Endogenous RNA Polymers

FIG. 5A

M13mp18 Nucleic Acid Sequence

M13mp18. Seq Length: 7250

1	AATGCTACTA	CTATTAGTAG	AATTGATGCC	ACCTTTTCAG	CTCGCGCCCC
51	AAATGAAAAT	ATAGCTAAAC	AGGTTATTGA	CCATTTGCCA	AATGTATCTA
101	ATGGTCAAAC	TAAATCTACT	CGTTCGCAGA	ATTGGAATC	AACTGTTACA
151	TGGAATGAAA	CTTCCAGACA	CCGTACTTTA	GTTGCATATT	TAAAACATGT
201	TGAGCTACAG	CACCAGATTC	AGCAATTAAG	CTCTAAGCCA	TCCGCAAAAA
251	TGACCTCTTA	TCAAAAGGAG	CAATTAAAGG	TACTCTCTAA	TCCTGACCTG
301	TTGGAGTTTG	CTTCCGGTCT	GGTTCGCTTT	GAAGCTCGAA	TTAAAACGCG
351	ATATTTGAAG	TCTTTCGGGC	TTCCTCTTAA	TCTTTTGTAT	GCAATCCGCT
401	TTGCTTCTGA	CTATAATAGT	CAGGGTAAAG	ACCTGATTTT	TGATTTATGG
451	TCATTCTCGT	TTTCTGAACT	GTTTAAAGCA	TTTGAGGGGG	ATTCAATGAA
501	TATTTATGAC	GATTCCGCAG	TATTGGACGC	TATCCAGTCT	AAACATTTTA
551	CTATTACCCC	CTCTGGCAAA	ACTTCTTTTG	CAAAAGCCTC	TCGCTATTTT
601	GGTTTTTATC	GTCGTCTGGT	AAACCAGGGT	TATGATAGTG	TTGCTCTTAC
651	TATGCCTCGT	AATTCCTTTT	GGCGTTATGT	ATCTGCATTA	GTTGAATGTG
701	GTATTCCTAA	ATCTCAACTG	ATGAATCTTT	CTACCTGTAA	TAATGTTGTT
751	CCGTTAGTTC	GTTTTATTAA	CGTAGATTTT	TCTTCCCAAC	GTCCTGACTG
801	GTATAATGAG	CCAGTTCTTA	AAATCGCATA	AGGTAATTCA	CAATGATTAA
851	AGTTGAAATT	AAACCATCTC	AAGCCCAATT	TACTACTCGT	TCTGGTGTTT
901	TCGTCAGGGC	AAGCTTATT	CACTGAATGA	GCAGCTTTGT	TACGTTGATT
951	TGGGTAATGA	ATATCCGGTT	CTTGTCGAAG	ATTACTCTTG	ATGAAGGTCA
1001	GCCAGCCTAT	GCGCCTGGTC	TGTAGACCGT	TCATCTGTCC	TCTTTCAAAG
1051	TTGGTCAGTT	CGGTTCCCTT	ATGATTGACC	GTCTGCGCCT	CGTTCCGGCT
1101	AAGTAACATG	GAGCAGGTCG	CGGATTTTCA	CACAATTTAT	CAGGCGATGA
1151	TACAAATCTC	CGTTGTACCTT	TGTTTCGCGC	TTGGTATAAT	CGCTGGGGGT
1201	CAAAGATGAG	TGTTTTAGTG	TATTCTTTCG	CCTCTTTCGT	TTTAGGTTGC

FIG. 5B

M13mp18 NUCLEIC ACID SEQUENCE

1251	TGCCTTCGTA	GTGGCATTAC	GTATTTTACC	CGTTTAATGG	AAACTTCCTC
1301	ATGAAAAAGT	CTTTAGTCCT	CAAAGCCTCT	GTAGCCGTTG	CTACCCTCGT
1351	TCCGATGCTG	TCTTTCGCTG	CTGAGGGTGA	CGATCCCGCA	AAAGCGGCCT
1401	TTAAGTCCCT	GCAAGCCTCA	GCGACCGAAT	ATATCGGTGA	TGCGTGGGCG
1451	ATGGTTGTTG	TCATTGTCGG	CGCAACTATC	GGTATCAAGC	TGTTTAAGAA
1501	ATCACCTCG	AAAGCAAGCT	GATAAACCGA	TACAATTAAA	GGCTCCTTTT
1551	GGAGCCTTTT	TTTTTGGAGA	TTTCAACGT	AAAAAAATTA	TTATTGCGAA
1601	TTCCTTTAGT	TGTTCCTTTC	TATTCTCACT	CCGCTGAAAC	TGTTGAAAGT
1651	TGTTTAGCAA	AACCCCATAC	AGAAAATTCA	TTACTAACG	TCTGGAAAGA
1701	CGACAAAAC	TTAGATCGTT	ACGCTAACTA	TGAGGGTTGT	CTGTGGAATG
1751	CTACAGGCGT	TGTAGTTTGT	ACTGGTGACG	AAACTCAGTG	TTACGGTACA
1801	TGGGTTCCTA	TTGGGCTTGC	TATCCCTGAA	AATGAGGGTG	GTGGCTCTGA
1851	GGGTGGCGGT	TCTGAGGGTG	GCGGTTCTGA	GGGTGGCGGT	ACTAAACCTC
1901	CTGAGTACGG	TGATACACCT	ATTCCGGGCT	ATACTTATAT	CAACCCTCTC
1951	GACGGCACTT	ATCCGCCTGG	TACTGAGCAA	AACCCGCTA	ATCCTAATCC
2001	TTCTCTTGAG	GAGTCTCAGC	CTCTTAATAC	TTTCATGTTT	CAGAATAATA
2051	GGTTCGGAAA	TAGGCAGGGG	GCATTAAGTG	TTTATACGGC	CACTGTTACT
2101	CAAGGCACTG	ACCCCGTTAA	AACTTATTAC	CAGTACACTC	CTGTATCATC
2151	AAAAGCCATG	TATGACGCTT	ACTGGAACGG	TAAATTCAGA	GACTGCGCTT
2201	CAAGGCACTG	ACCCCGTTAA	AACTTATTAC	CAGTACACTC	CTGTATCATC
2251	AAAAGCCATG	TGCCTCAACC	TCCTGTCAAT	GCTGGCGGCG	GCTCTGGTGG
2301	TCCATTCTGG	CTTTAATCAA	GATCCATTCT	TTTGTGAATA	TCAAGGCCAA
2351	TCGTCTGACC	TGCCTCAACC	TCCTGTCAAT	GCTGGCGGCG	GCTCTGGTGG
2401	TGGTTCTGGT	GGCGGCTCTG	AGGGTGGTGG	CTCTGAGGGT	GGCGGTTCTG
2451	AGGGTGGCGG	CTCTGAGGGA	GGCGGTTCCG	GTGGTGGCTC	TGGTTCCGGT
2501	GATTTTGATT	ATGAAAAGAT	GGCAAACGCT	AATAAGGGGG	CTATGACCGA
2551	AAATGCCGAT	GAAAACCGCG	TACAGTCTGA	CGCTAAAGGC	AAACTTGATT

FIG. 5C

M13mp18 Nucleic Acid Sequence

2601	CTGTCGCTAC	TGATTACGGT	GCTGCTATCG	ATGGTTTCAT	TGGTGACGTT
2651	TCCGGCCTTG	CTAATGGTAA	TGGTGCTACT	GGTGATTTTG	CTGGCTCTAA
2701	TTCCCAAATG	GCTCAAGTCG	GTGACGGTGA	TAATTCACCT	TTAATGAATA
2751	ATTTCCGTCA	ATATTTACCT	TCCCTCCCTC	AATCGGTTGA	ATGTCCGCCCT
2801	TTTGTCTTTA	GCGCTGGTAA	ACCATATGAA	TTTTCTATTG	ATTGTGACAA
2851	AATAAACTTA	TTCCGTGGTG	TCTTTGCGTT	TCTTTTATAT	GTTGCCACCT
2901	TTATGTATGT	ATTTTCTACG	TTTGCTAACA	TACTGCGTAA	TAAGGAGTCT
2951	TTATCATGCC	AGTTCTTTTG	GGTATTCCGT	TATTATTGCG	TTTCTCGGT
3001	TTCTTCTGG	TAACTTTGTT	CGGCTATCTG	CTTACTTTTC	TTAAAAAGGG
3051	CTTCGGTAAG	ATAGCTATTG	CTATTTCAAT	GTTTCTTGCT	CTTATTATTG
3101	GGCTTAACTC	AATTCTTG TG	GGTTATCTCT	CTGATATTAG	CGCTCAATTA
3151	CCCTCTGACT	TTGTTCAAGG	TGTTCAAGTA	ATTCTCCCGT	CTAATGCGCT
3201	TCCCTGTTTT	TATGTTATTC	TCTCTGTAAA	GGCTGCTATT	TTCAATTTTG
3251	ACGTTAAACA	AAAAATCGTT	TCTTATTTGG	ATTGGGATAA	ATAATATGGC
3301	TGTTTTATTTT	GTAAGTGGCA	AATTAGGCTC	TGGAAAGACG	CTCGTTAGCG
3351	TTGGTAAGAT	TCAGGATAAA	ATTGTAGCTG	GGTGCAAAAT	AGCAACTAAT
3401	CTTGATTTAA	GGCTTCAAAA	OCTCCCGCAA	GTCGGGAGGT	TCGCTAAAAC
3451	GCCTCGCGTT	CTTAGAATAC	CGGATAAGCC	TTCTATATCT	GATTTGCTTG
3501	CTATTGGGCG	CGGTAATGAT	TCCTACGAATG	AAAATAAAAA	CGGCTTGCTT
3551	GTTCTCGATG	AGTGGCGTAC	TTGGTTTAAT	ACCCGTTCTT	GGAATGATAA
3601	GGAAAGACAG	CCGATTATTG	ATTGGTTTCT	ACTGCTCGT	AAATTAGCAT
3651	GGGATATTAT	TTTTCTTGTT	CAGGACTTAT	CTATTGTTGA	TAAACAGGCG
3701	CGTTCTGCAT	TAGCTGAACA	TGTTGTTTAT	TGTCGTCGTC	TGGACAGAAT
3751	TACTTTACCT	TTTGTCGGTA	CTTTATATTC	TCTTATTACT	GGCTCGAAAA
3801	TGCCTCTGCC	TAAATTACAT	GTTGGCGTTG	TTAAATATGG	CGATTCTCAA
3851	TTAAGCCCTA	CTGTTGAGCG	TTGGCTTTAT	ACTGTAAGA	ATTTGTATAA
3901	CGCATATGAT	ACTAAACAGG	CTTTTCTAG	TAATTATGAT	TCCGGTGTTT

FIG. 5D

M13mp18 Nucleic Acid Sequence

3951	ATTCTTATTT	AACGCCTTAT	TTATCACACG	GTCGGTATTT	CAAACCATTA
4001	AATTTAGGTC	AGAAGATGAA	ATTAACTAAA	ATAATATTGA	AAAAGTTTTTC
4051	TCGCGTTCTT	TGTCTTGCGA	TTGGATTTGC	ATCAGCATTT	ACATATAGTT
4101	ATATAACCCA	ACCTAAGCCG	GAGGTTAAAA	AGGTAGTCTC	TCAGACCTAT
4151	GATTTTGATA	AATTCACTAT	TGACTCTTCT	GAGCGTCTTA	ATCTAAGCTA
4201	TCGCTATGTT	TTCAAGGATT	CTAAGGAAA	ATTAATTAAT	AGCGACGATT
4251	TACAGAAGCA	AGGTATTCA	CTCACATATA	TTGATTTATG	TACTGTTTTCC
4301	ATTAAAAAAG	GTAATTCAAA	TGAAATTGTT	AAATGTAATT	AATTTTGTTT
4351	TCTTGATGTT	TGTTTCATCA	TCTTCTTTTG	CTCAGGTAAT	TGAAATGAAT
4401	AATTCGCCTC	TGCGCGATTT	TGTAACCTGG	TATTCAAAGC	AATCAGCGCA
4451	AATCCGTTATT	GTTTCTCCCG	ATGTAAAAGG	TACTGTTACT	GTATATTTCAT
4501	CTGACGTAA	ACCTGAAAAT	CTACGCAATT	TCTTTATTTT	TGTTTTACGT
4551	GCTAATAATT	TTGATAATGGT	TGGTTCAATT	CCTTCCATAA	TTCAGAAGTA
4601	TAATCCAAAC	AATCAGGATT	ATATTGATGA	ATTGCCATCA	TCTGATAATC
4651	AGGAATATGA	TGATAATTCC	GCTCCTTCTG	GTGGTTTCTT	TGTTCCGCAA
4701	AATGATAATG	TTACTCAAAC	TTTTAAAATT	AATAACGTTT	GGGCAAAGGA
4751	TTTAATACGA	GTTGTGCAAT	TGTTTGTAAG	GTCTAATACT	TCTAAATCCT
4801	CAATGTATT	ATCTATTGAC	GGCTCTAATC	TATTAGTTGT	TAGTGCTCCT
4851	AAAGATATTT	TAGATAACCT	TCCTCAATTC	CTTTCTACTG	TTGATTTGCC
4901	AACTGACCAG	ATATTGATTG	AGGGTTTGAT	ATTTGAGGTT	CAGCAAGGTG
4951	ATGCTTTAGA	TTTTTCATTT	GCTGCTGGCT	CTCAGCGTGG	CACTGTTGCA
5001	GGCGGTGTTA	ATACTGACCG	CCTCACCTCT	GTTTTATCTT	CTGCTGGTGG
5051	TTCGTTCCGT	ATTTTAAATG	GCGATGTTTT	AGGGCTATCA	GTTCCGCGAT
5101	TAAAGACTAA	TAGCCATTCA	AAAATATTGT	CTGTGCCACG	TATTCCTACG
5151	CTTTCAGGTC	AGAAGGGTTC	TATCTCTGTT	GGCCAGAATG	TCCCTTTTAT
5201	TAAAGACTAA	TAGCCATTCA	AAAATATTGT	CTGTGCCACG	TATTCCTACG
5251	CGATTGACCG	TCAAAATGTA	GGTATTTCCT	TGAGCGTTTT	TCCTGTTGCA

FIG. 5E

M13mp18 Nucleic Acid Sequence

5301	ATGGCTGGCG	GTAATATTGT	TCTGGATATT	ACCAGCAAGG	CCGATAGTTT
5351	GAGTTCTCT	ACTCAGGCAA	GTGATGTTAT	TACTAATCAA	AGAAGTATTG
5401	CTACAACGGT	TAATTTGCGT	GATGGACAGA	CTCTTTTACT	CGGTGGCCTC
5451	ACTGATTATA	AAAACACTTC	TCAAGATTCT	GGCGTACCGT	TCCTGTCTAA
5501	AATCCCTTTA	ATCGGCCTCC	TGTTTAGCTC	CCGCTCTGAT	TCCAACGAGG
5551	AAAGCACGTT	ATACGTGCTC	GTCAAAGCAA	CCATAGTACG	CGCCCTGTAG
5601	CGGCGCATT	AGCGCGGCGG	GTGTGGTGGT	TACGCGCAGC	GTGACCGCTA
5651	CACTTGCCAG	CGCCCTAGCG	CCCCTCCTT	TCGCTTTCTT	CCCTTCCTTT
5701	CTCGCCACGT	TCGCCGGCTT	TCCCCGTCAA	GCTCTAAATC	GGGGGCTCCC
5751	TTTAGGGTTC	CGATTTAGTG	CTTTACGGCA	CCTCGACCCC	AAAAAACTTG
5801	ATTTGGGTGA	TGGTTCACGT	AGTGGGCCAT	CGCCCTGATA	GACGGTTTTT
5851	CGCCCTTTGA	CGTTGGAGTC	CACGTTCTTT	AATAGTGGAC	TCTTGTTCCA
5901	AACTGGAACA	AACTCAACC	CTATCTCGGG	CTATTCTTTT	GATTTATAAG
5951	GGATTTTGCC	GATTTTCGAA	CCACCATCAA	ACAGGATTTT	CGCCTGCTGG
6001	GGCAAACCAG	CGTGGACCGC	TTGCTGCAAC	TCTCTCAGGG	CCAGGCGGTG
6051	AAGGGCAATC	AGCTGTTGCC	CGTCTCGCTG	GTGAAAAGAA	AAACCACCCT
6101	GGCGCCCAAT	ACGCAAACCG	CCTCTCCCCG	CGCGTTGGCC	GATTCATTAA
6151	TGCAGCTGGC	ACGACAGGTT	TCCCGACTGG	AAAGCGGGCA	GTGAGCGCAA
6201	CGCAATTAAT	GTGAGTTAGC	TCACTCATT	GGCACCCAG	GCTTTACACT
6251	TTATGCTTCC	GGCTCGTATG	TTGTGTGGAA	TTGTGAGCGG	ATAACAATTT
6301	CACACAGGAA	ACAGCTATGA	CCATGATTAC	GAATTCGAGC	TCGGTACCCG
6351	GGATCCTCT	AGAGTCGACC	TGCAGGCATG	CAAGCTTGGC	ACTGGCCGTC
6401	GTTTTACAAC	GTCGTGACTG	GGAAAACCCT	GGCGTTACCC	AACTTAATCG
6451	CCTTGACGCA	CAATCCCCTT	TCGCCAGCTG	CGGTAATAGC	GAAGAGGCCC
6501	GCACCGATCG	CCCTTCCCAA	CAGTTGCGCA	GCCTGAATGG	CGAATGGCGC
6551	TTTGCCTGGT	TTCCGGCACC	AGAAGCGGTG	CCGGAAAGCT	GGCTGGAGTG
6601	CGATCTTCCT	GAGGCCGATA	CGGTCGTCGT	CCCCTCAAAC	TGGCAGATGC

FIG. 5F

M13mp18 Nucleic Acid Sequence

6651	ACGGTTACGA	TGCGCCCATC	TACACCAACG	TAACCTATCC	CATTACGGTC
6701	AATCCGCCGT	TTGTTCCCAC	GGAGAATCCG	ACGGGTTGTT	ACTCGCTCAC
6751	ATTTAATGTT	GATGAAAGCT	GGCTACAGGA	AGGCCAGACG	CGAATTATTT
6801	TTGATGGCGT	TCCTATTGGT	TAAAAAATGA	GCTGATTTAA	CAAAAATTTA
6851	ACGCGAATTT	TAACAAAATA	TTAACGTTTA	CAATTTAAAT	ATTTGCTTAT
6901	ACAATCTTCC	TGTTTTTGGG	GCTTTTCTGA	TTATCAACCG	GGGTACATAT
6951	GATTGACATG	CTAGTTTTAC	GATTACCGTT	CATCGATTCT	CTTGTTTGCT
7001	CCAGACTCTC	AGGCAATGAC	CTGATAGCCT	TTGTAGATCT	CTCAAAAATA
7151	GCTACCCTCT	CCGGCATGAA	TTTATCAGCT	AGAACGGTTG	AATATCATAT
7101	TGATGGTGAT	TTGACTGTCT	CCGGCCTTTC	TCACCCTTTT	GAATCTTTAC
7151	CTACACATTA	CTCAGGCATT	GCATTTAAAA	TATATGAGGG	TTCTAAAAAT
7201	TTTTATCCTT	GCGTTGAAAT	AAAGGCTTCT	CCCGCAAAAG	TATTACAGGG
7251	TCATAATGTT	TTTGGTACAA	CCGATTTAGC	TTTATGCTCT	GAGGCTTTAT

FIG. 6**Primers for Nucleic Acid Production Derived from M13mp18 Nucleic Acid Sequence**

COMPLEMENTARY TO M13			
POSITION	5' * 3'	POSITION	
645	AGCAACACTATCATA	631	M13/1
	*		
615	ACGACGATAAAAACC	601	M13/2
585	TTTTGCAAAAGAAGT	571	M13/3
	* *		
555	AATAGTAAAATGTTT	541	M13/4
	* *		
525	CAATACTGCGGAATG	511	M13/5
	* *		
495	TGAAAACGAGAATGA	481	M13/6
465	AGAAAACGAGAATGA	451	M13/7
	* *		
435	CAGGTCTTTACCCTG	421	M13/8
	*		
405	AGGAAAGCGGATTGC	391	M13/9
375	AGGAAGCCCGAAAGA	361	M13/10

COMPLEMENTARY TO SS PHAGE DNA			
POSITION	5' * * 3'	POSITION	
351	ATATTTGAAGTCTTT	366	M13/11
	* *		
371	TCTTTTTGATGCAAT	386	M13/12
	* *		
391	CTATAACTCAGGG	406	M13/13
	* *		
411	TGATTTATGGTCATT	426	M13/14
	* *		
431	GTTTAAAGCATTTGA	446	M13/15
	* *		
451	TATTTATGACGATTC	466	M13/16
	* *		
471	TATCCAGTCTAAACA	486	M13/17
	* *		
491	CTCTGGCAAACTTC	506	M13/18
	* *		
511	TCGCTATTTTGTTT	526	M13/19
	*		
531	AAACGAGGGTTATGA	546	M13/20

12/27

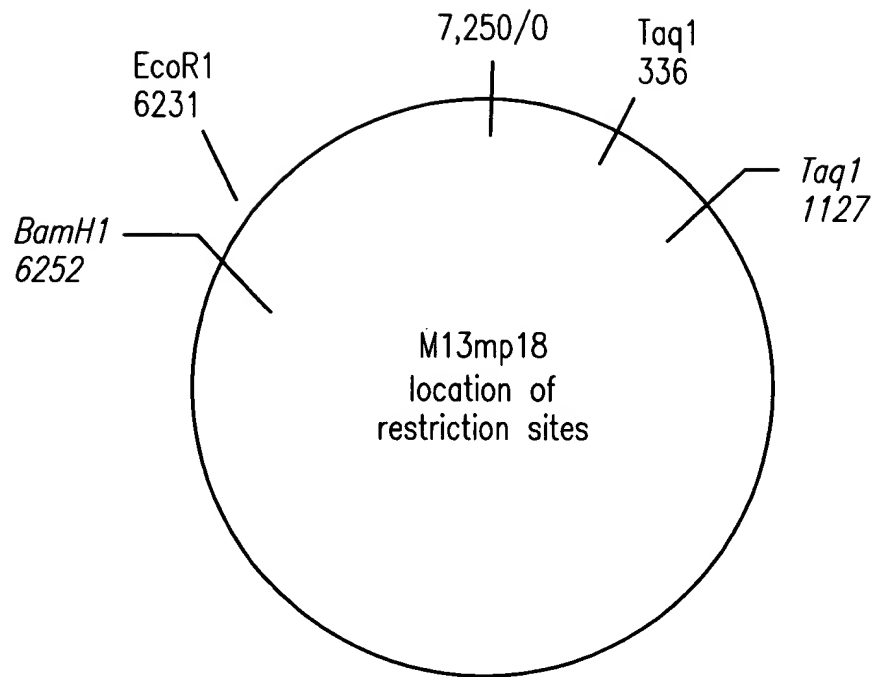
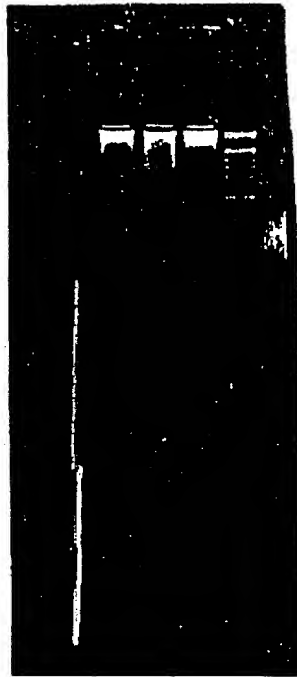


FIG. 7

Appropriate M13mp18 Restriction Sites



Lane 1: from calf thymus + Taq digested mp18 amplification reaction
Lane 2: from Taq digested mp18 amplification reaction
Lane 3: from calf thymus amplification reaction
Lane 4: ØX174 Hinf1 size marker

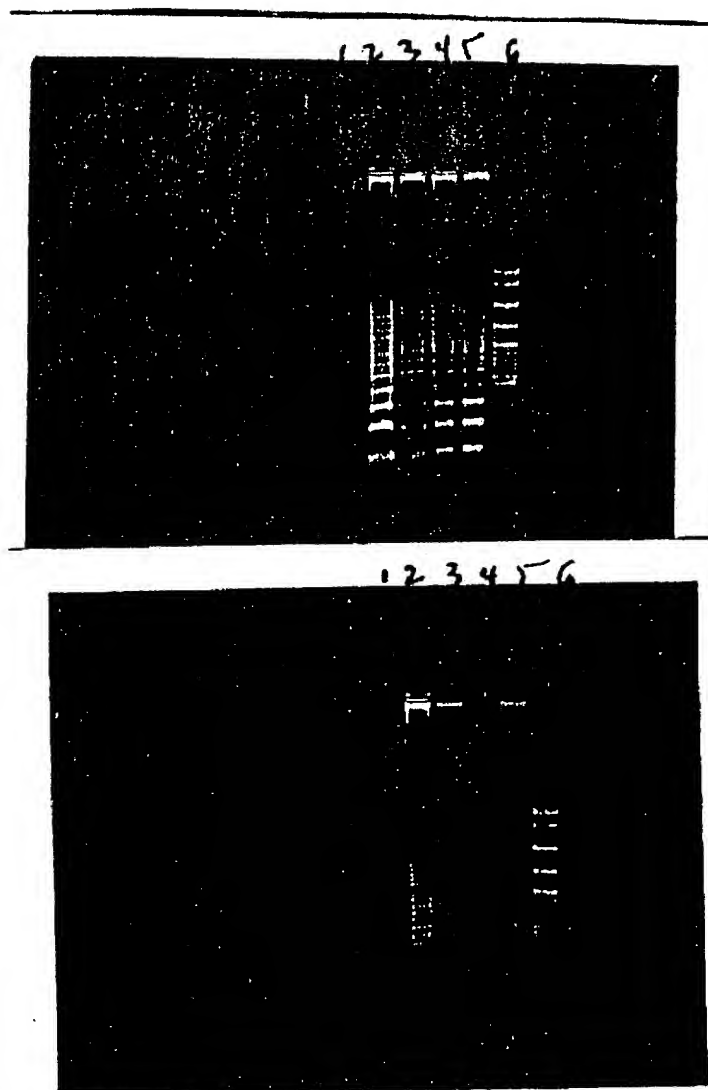
FIG. 8



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Lane 1: no template
Lane 2: mp18 template, phosphate buffer
Lane 3: MspI/pBR322 size marker
Lane 4: mp18 template, MOPS buffer

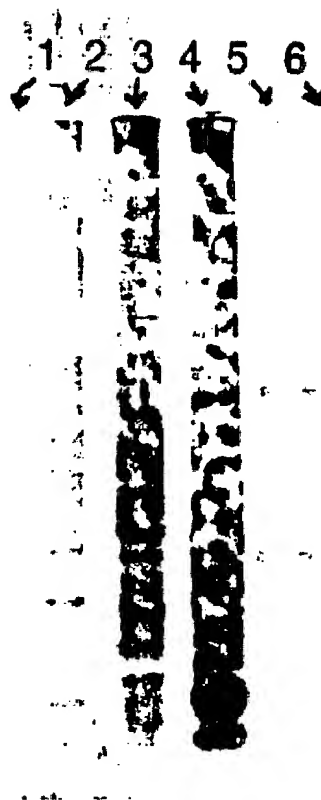
FIG. 9



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Top= (+) Template
 Bottom= (-) Template
 Lane 1: phosphate buffer
 Lane 2: MES
 Lane 3: MOPS
 Lane 4: DMAB
 Lane 5: DMG
 Lane 6: pBR322/Mspl size marker

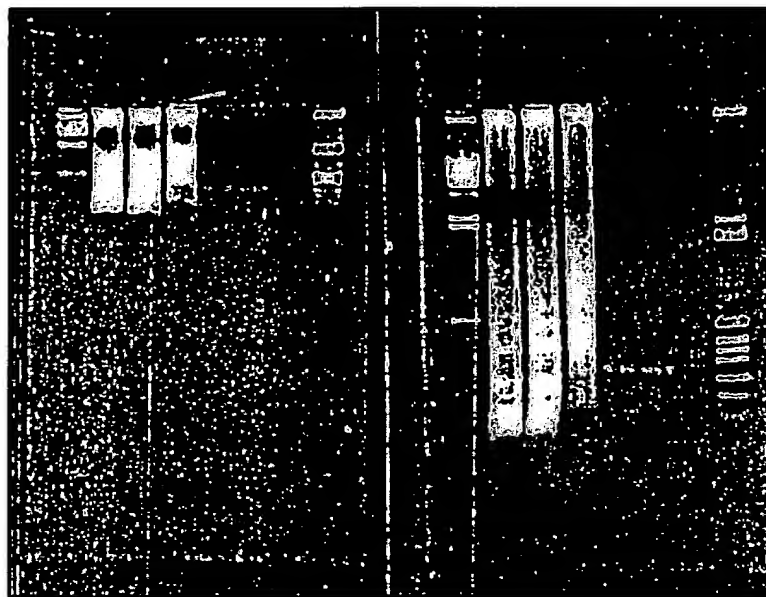
FIG. 10



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Lane 1: DMAB buffer, no template
Lane 2: DMAB buffer, mp18 template
Lane 3: DMG buffer, no template
Lane 4: DMG buffer, mp18 template
Lane 5: no reaction
Lane 6: 200 ng Taq I digested mp18
size marker/positive control

FIG. 11



First Time Interval

Second Time Interval

Agarose Gel Analysis

- Lane 1: Lambda Hind III marker
- Lane 2: Amp/Untreated
- Lane 3: Amp/Kinased
- Lane 4: Amp/Kinased/Ligated
- Lane 5: PCR/Untreated
- Lane 6: PCR/Kinased
- Lane 7: PCR/Kinased/Ligated
- Lane 8: ϕ X174/Hinf1 marker

FIG. 12

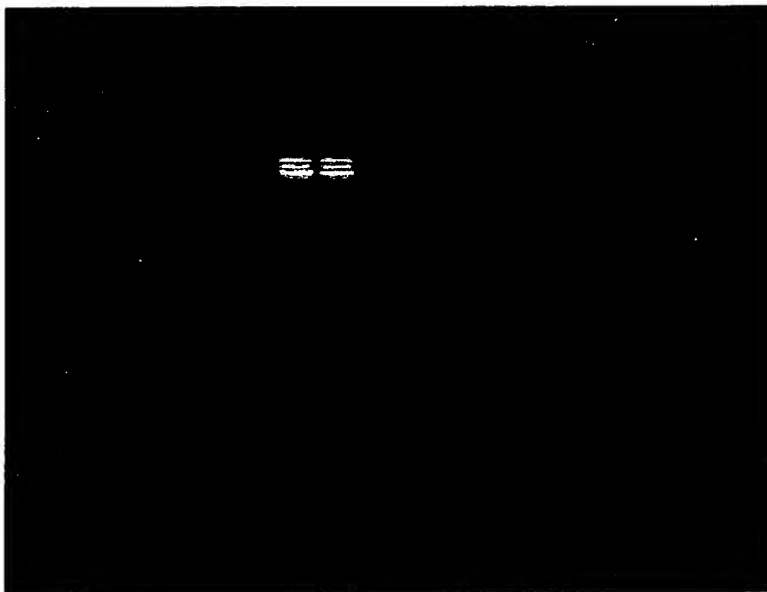
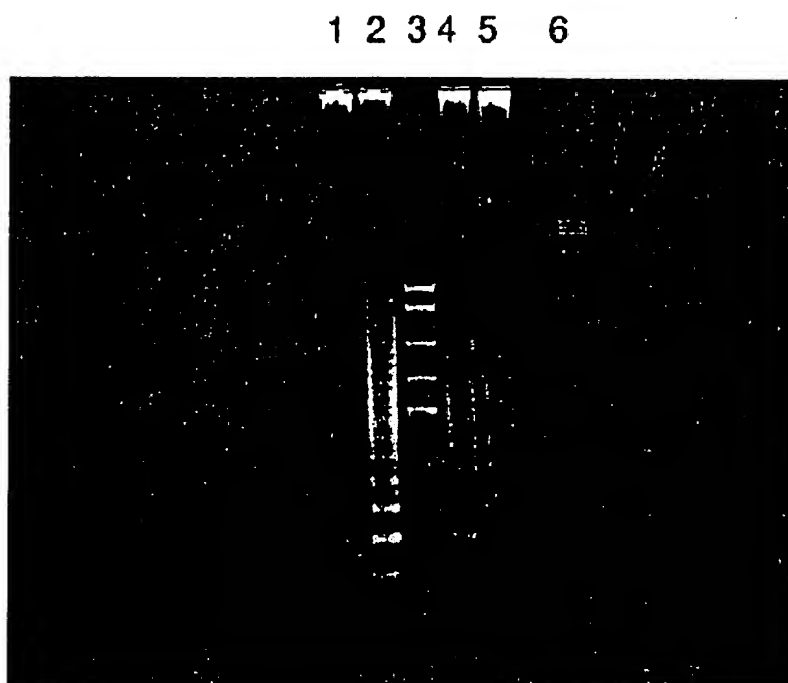


FIG. 13

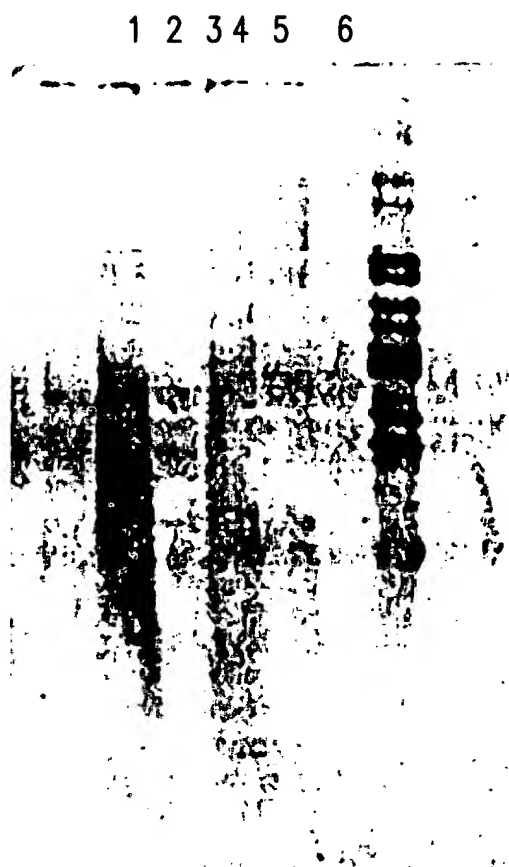
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Lane 1: Primers alone
Lane 2: Primers + taq digested M13 DNA
Lane 3: Molecular weight markers
Lane 4: Primers + RNA
Lane 5: Primers alone
Lane 6: M13 digested DNA
Buffer was dimethyl amino glycine, pH 8.6

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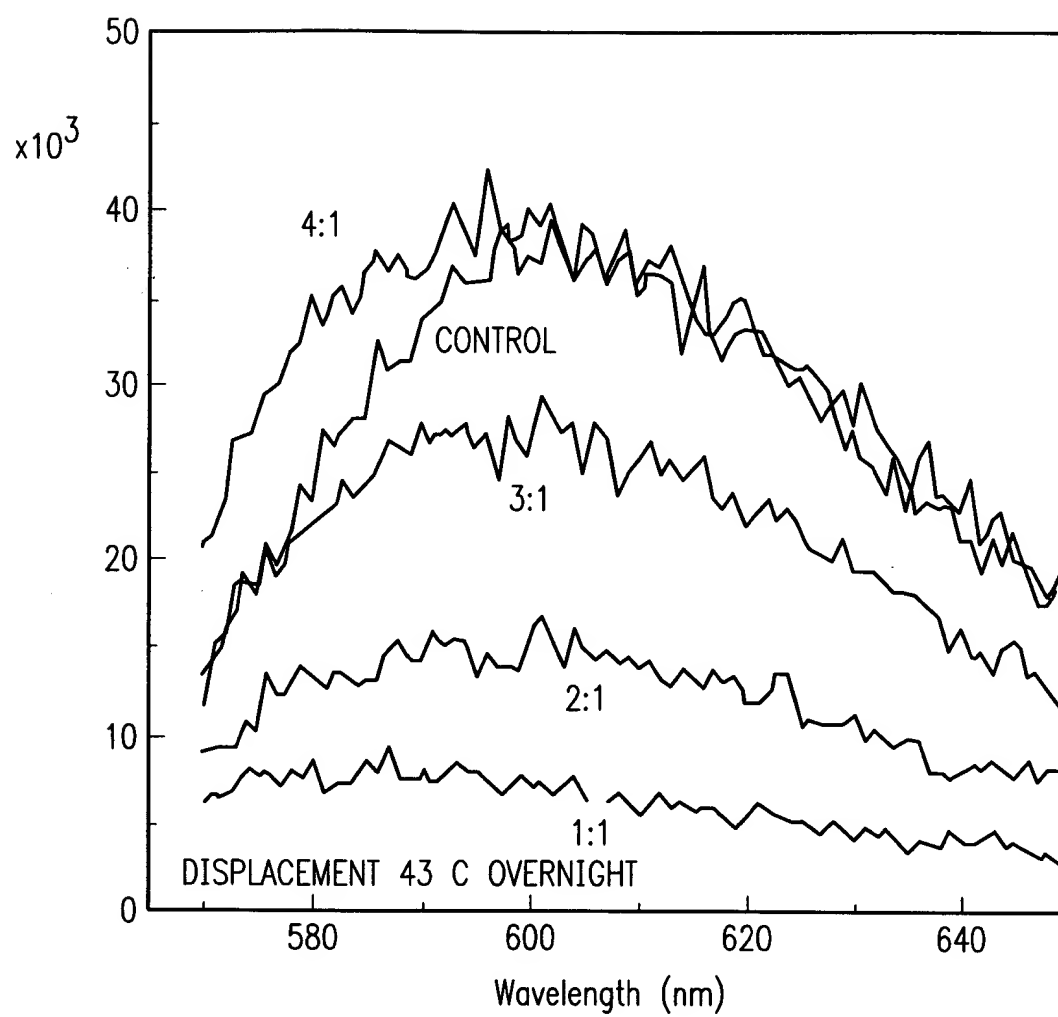
FIG. 14



Lane 1: Primers alone
Lane 2: Primers + taq digested M13 DNA
Lane 3: Molecular weight markers
Lane 4: Primers + RNA
Lane 5: Primers alone
Lane 6: M13 digested DNA
Buffer was dimethyl amino glycine, pH 8.6

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FIG. 15

*FIG. 16*

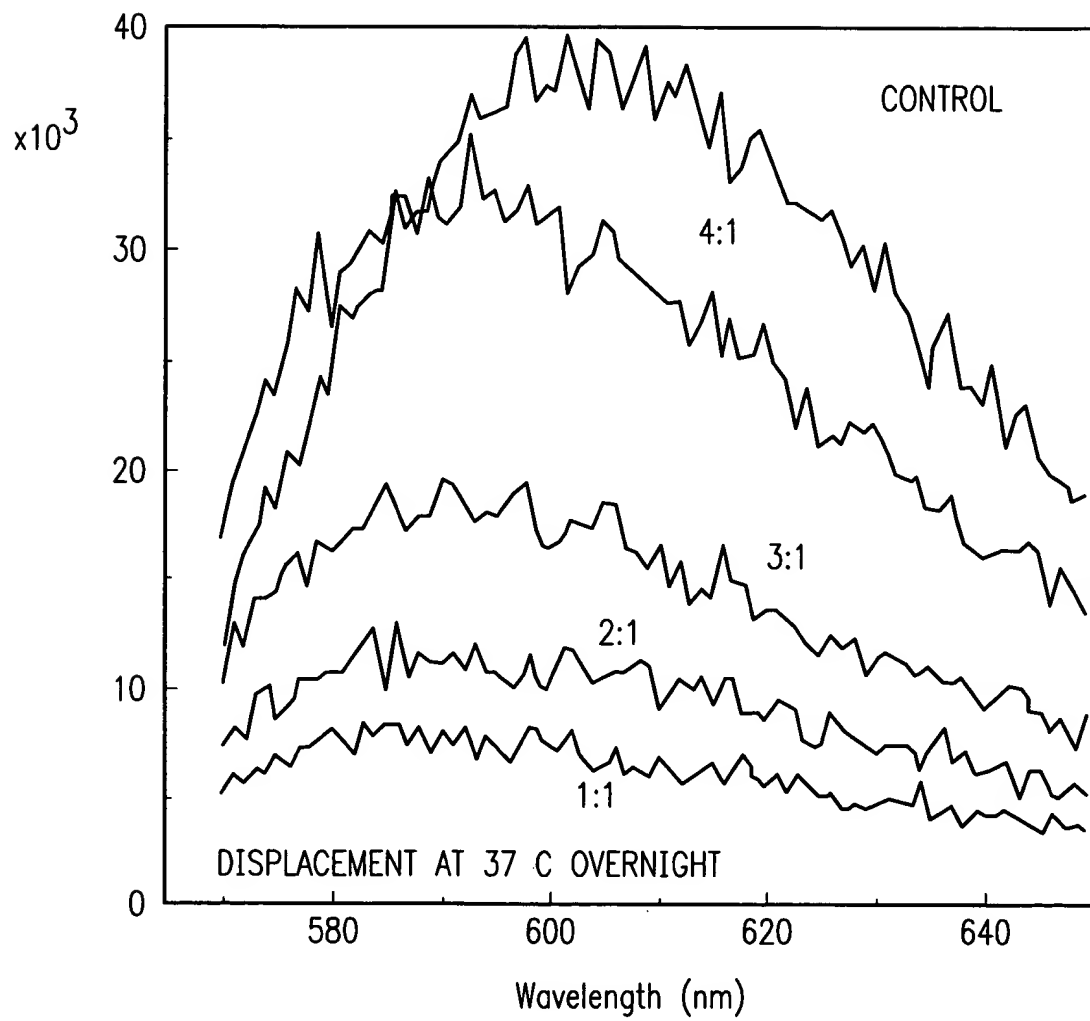


FIG. 17

pIBI 31-BH5-2

fmet AUG of Lac z {T7 Promotor region....
 LAC PROMOTOR..ATG ACC ATG ATT ACG CCA GAT ATC AAA TTA ATA CGA CTC ACT ATA
 oligo 50-mer 3'- tac t*aa t*gc ggt* ct*a t*ag t*Vt aat* tat* gct* gag t*ga t*at* c-5'
 10 base insert
 T7 RNA Start {<< << T3 Promotor Region }
 IGGG CTC ICCT TTA GTG ACG GTT AAT
 ...>> >>} <<- T3 Start Signal

pIBI 31 BSII/HCV

fmet AUG of Lac z {T3 Promotor region ->>} T3 RNA Start
 LAC PROMOTOR..ATG ACC ATG ATT ACG CCA AGC TCG AAA TTA ACC CTC ACT AAA /GGG
 oligo 50-mer 3'- tac t*aa t*ac t*aa t*gc ggt* t*V--10 base insert--.....
 {<<- T7 Promotor Region }
 MULTIPLE CLONING SITE + 390 BASE INSERT CTA /TAG TGA GTC CGT ATT AAT....
 <<- T7 Start Signal
 5'-ct*a t*ag t*ga gt*c gt*a tt*a at*.....

FIG. 18

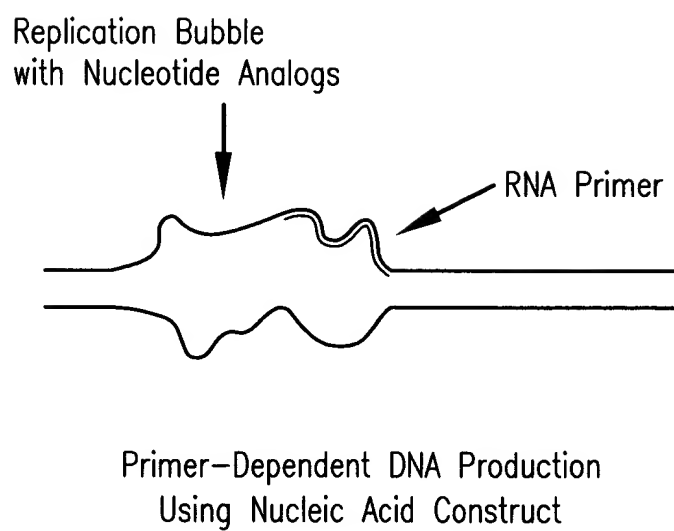


FIG. 19

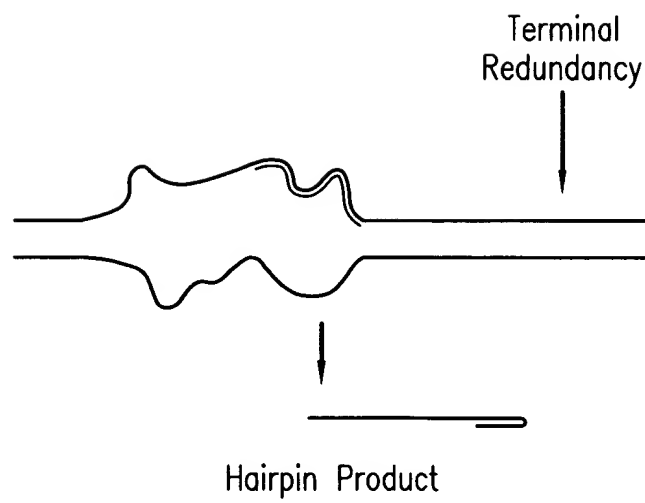


FIG. 20

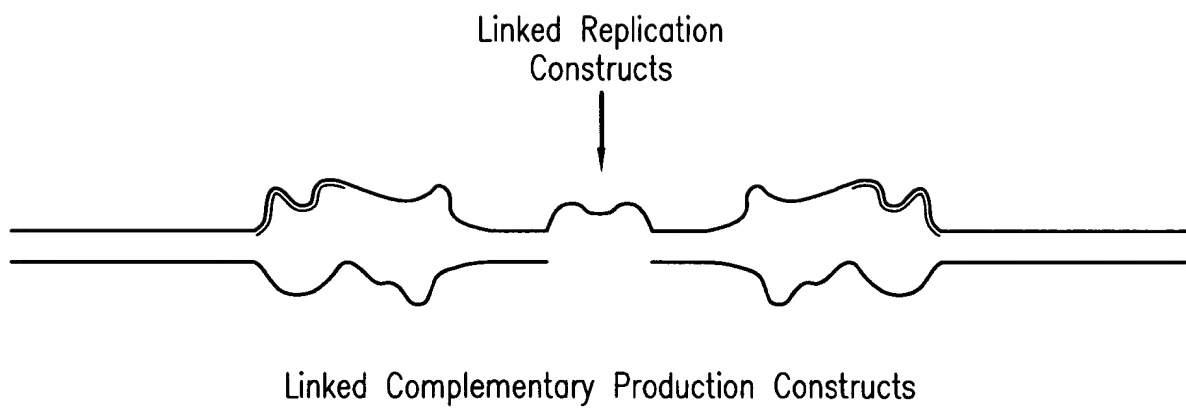


FIG. 21

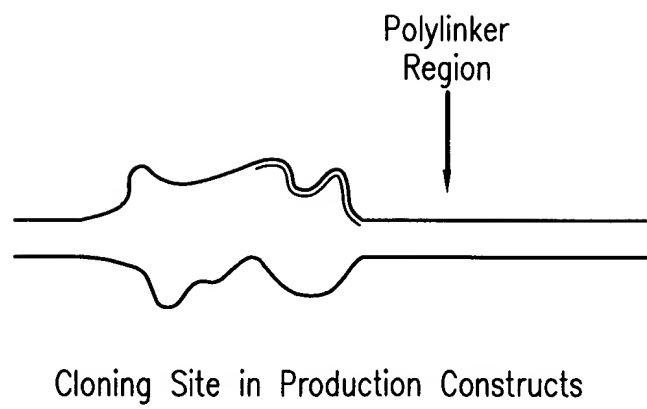


FIG. 22